The Disconnected Mind Newsletter

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Lothian Birth Cohorts
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Newsletter 74: June 2026

Welcome to the 74th edition of the Disconnected Mind Newsletter. In this issue, we bring you updates from March to May, including new research publications, recent scientific events, and highlights from our public engagement, knowledge exchange, and impact activities from the Lothian Birth Cohorts team.

Updates

Wave 8 LBC1936 data collection underway

Wave 8 data collection began in January 2026 and is already well underway, with over 40 participants seen to date. Early recruitment was progressing on target until an unexpected water leak caused damage to our usual clinic rooms at the Clinical Research Facility. This resulted in a two-week pause in appointments during April while alternative arrangements were put in place. Thanks to the outstanding support of the hospital team, we have since relocated to Ward 22 and are pleased to report that testing has resumed successfully. Current capacity is more limited than we had hoped, and we are actively exploring additional facilities to increase our testing rate.

In the meantime, the cognitive testing team have been making excellent use of the time by progressing with their ongoing research projects and completing data quality checks for Wave 6, important steps that will allow us to make these available to our collaborators.

LBC1936 at 90: Participants share their stories

LBC1936 participants at the Edinburgh Futures Institute with BBC journalist Joanne MacAulay

Recently, four LBC1936 participants visited the Edinburgh Futures Institute to speak with the BBC about their lives, their memories of sitting the Scottish Mental Survey at age 11 in 1947, and their experience of taking part in the Lothian Birth Cohorts research study over two decades. Their reflections offered a remarkable perspective on ageing, education, and what keeps them active across the life course. The feature, which marked the participants' 90th birthday, also included contributions from students at Boroughmuir High School, who have been involved in the Healthy Brains programme as well as Professor Simon Cox, discussing the scientific insights gained from studying the cohort over many years. You can listen to the feature on the BBC Radio Scotland Breakfast programme from 13 June and read the accompanying online article. We are enormously grateful to all participants for their continued time, commitment, and enthusiasm.

Team Updates

Congratulations to Dr Martha Pollard

Left to right: Professor Julian Stern, Professor Susan Shenkin, Dr Martha Pollard, Professor John Swinton

Dr Martha Pollard (formerly Whiteman) completed her second PhD! After her first PhD in Public Health Sciences (1998), Martha became the Study Co-ordinator for the LBC1921 and later LBC1936 studies. Inspired by her experiences working closely with participants, she went on to support people living with dementia and their carers in community-based roles between 2012-2021. These experiences led her back to academia and to a second PhD: a qualitative study exploring what freedom means in the context of dementia caring for both paid and unpaid carers. Drawing on perspectives from human rights, practical theology and pastoral care, social science and medicine, Martha's research highlights the importance of common humanity, community solidarity, and accessible local support hubs in dementia care. Her work also emphasises the role of self-compassion in supporting both carers' wellbeing and the wellbeing of people living with dementia. Martha passed her PhD oral examination on 13 May, and the photo with the examiners marks the occasion. Professor Susan Shenkin who is an LBC Co-Investigator was one of the examiners. Congratulations, Martha!

Dr Anna Furtjes strengthens research links in Japan

Dr Anna Furtjes (fifth from the left) with colleagues at the Tohoku Medical Megabank Organisation

In February, Dr Anna Furtjes visited the Tohoku Medical Megabank Organisation in Sendai, Japan, to strengthen international collaborations connected to the work of the Lothian Birth Cohorts. Established in the aftermath of the 2011 Great East Japan Earthquake and tsunami, the organisation follows around 100,000 participants and combines health, genetic, imaging, and lifestyle data to support large-scale research into health and ageing. By bringing together data from cohorts in Japan and Scotland, researchers hope to better understand which influences on health and ageing are shared across populations and which may be specific to particular cultural or environmental contexts. During her visit, Anna toured the organisation's research facilities, including genome sequencing laboratories, MRI scanners, and secure computing infrastructure. The visit also marked the first occasion on which an international collaborator had been granted access to Tohoku's genetic data and undertaken genetic analyses directly within its secure on-site research environment. Colleagues at Tohoku described this as a "historic milestone" in the organisation's international research partnerships. We are very grateful to our colleagues at Tohoku for their warm welcome and generosity throughout the visit, and we look forward to developing this partnership further, including Professor Simon Cox's planned visit to Sendai later this year.

Scientific highlights

Worsening pain linked to faster cognitive decline in older age

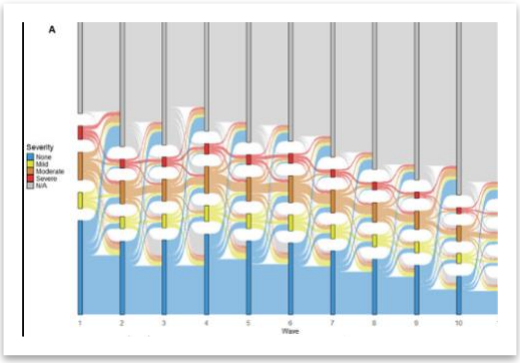


Diagram showing how participants' pain severity changed over time across the study.

A new study led by PhD student Sam Andres using data from the English Longitudinal Study of Ageing has explored how pain and cognitive ageing may be connected over time. Researchers analysed data collected from more than 20,000 participants between 2002 and 2024. Every two years, participants reported whether they were troubled by pain and how severe it was, while also completing cognitive tests assessing memory, language, and processing speed. The study found that people reporting more severe pain at the beginning of the study tended to experience faster cognitive decline over time. Researchers also examined changes in pain across the years and found that individuals whose pain worsened over time were also more likely to show faster declines in cognitive ability. However, the relationship became much weaker after taking into account socio-economic factors and existing medical conditions, suggesting that these may partly explain the link between worsening pain and cognitive decline. The findings add to growing evidence that chronic pain may have important consequences for cognitive health in later life. Future work will explore whether factors such as pain medication may also play a role.

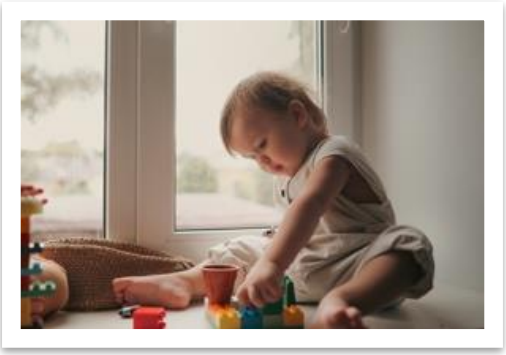
Andres, S. et al. (in press). Trajectories of pain and cognitive function: 22 years of evidence in mid-to-later life. Pain.

Different cognitive abilities show distinct genetic links to mental health

A major new genetic study is reshaping how researchers think about intelligence and its links to mental health. While LBC research has shown that different cognitive abilities are positively related, this new study suggests that they may have partly distinct genetic relationships with psychiatric and neurological conditions. Using UKB data from over 438,000 individuals, researchers examined three cognitive domains separately: *reaction time* (processing speed), *fluid reasoning* (problem-solving ability), and *crystallised knowledge* (accumulated learning and vocabulary). Including reaction time was particularly important, as it captures basic processing speed that supports many aspects of cognition but is often overlooked in studies of intelligence. The study identified genetic influences associated with each domain and then examined how they overlap with schizophrenia, bipolar disorder, autism, ADHD, and Alzheimer's disease. The findings show that the genetic relationships are not uniform. Instead, each condition displayed a different pattern of associations across cognitive domains, with differences in both strength and direction. Reaction time showed partly distinct genetic relationships from reasoning ability and crystallised knowledge. The study marks an important shift in cognitive genomics, from searching for genes common to mental health and broad intelligence towards understanding how distinct genetic mechanisms underpin different cognitive functions and their relationships with mental health. The findings suggest that treating cognition as a single phenotype may obscure important biological pathways.

Londono-Correa et al. (2026). Crystallized and fluid cognitive abilities have different genetic associations with neuropsychiatric disorders. Nature Communications.

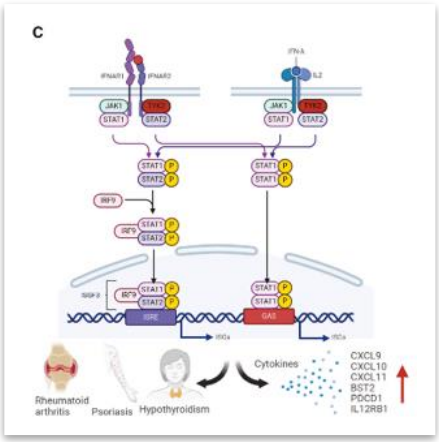
Using parent insights to understand early cognitive development in preterm two-year-olds



The LBC research team has a long-standing interest in understanding the correlations among cognitive abilities and how they are measured across the lifespan. In this study, led by Rebekah Smikle, researchers explored how parent-reported language, attention and executive function cluster in two-year-old children, and whether these domains reflect a broader underlying developmental factor. Using data from 183 toddlers (including children born preterm and at term), the authors examined relationships among questionnaire-based measures and associations with gestational age, suggesting that parent ratings capture both domain-specific abilities and a broader aspect of early cognitive development. Associations with gestational age were generally positive across domains, with stronger evidence for lower parent-estimated language function in earlier-born children, though differences were small overall. The findings suggest that, by age two, individual differences in language, attention and executive functioning may already reflect a mixture of shared and specific developmental processes, with implications for studying neurodevelopment following preterm birth.

Smikle R., et al. (2026). Parental report of language, attention and executive functions at two years: correlational structure of measures and applications to prematurity. Wellcome Open Research.

LBC contributes to major international blood protein genetics study



Schematic showing how reduced TYK2 function may alter immune signalling pathways involved in autoimmune disease, highlighting potential opportunities for drug repurposing.

Researchers from the LBC team contributed data to a major international study investigating the genetics of blood proteins, published recently in *Cell*. Led by researchers at Queen Mary University of London and the Berlin institute of Health at Charité, the project brought together data from more than 78,000 participants across 38 cohorts worldwide, making it the largest study of its kind to date. Proteins play essential roles throughout the body, and studying how genetic differences influence blood proteins can provide important insights into disease mechanisms and potential treatment targets. By combining large-scale genetic and molecular data, the researchers identified new biological pathways linked to disease and highlighted possible opportunities for drug repurposing. One example involved TYK2 inhibitors, currently used to treat psoriasis, which may also have potential in rheumatoid arthritis treatment. The study demonstrates the growing importance of large international collaborations in understanding human health and developing more targeted approaches to medicine.

Koprulu, M. et al. (2026). Multi-cohort proteogenomic analyses reveal genetic effects across the proteome and diseasome. Cell.

Knowledge Exchange, Public Engagement & Impact

Professor Simon Cox shares brain ageing research with audiences in the UK and internationally

This Spring, Prof Simon Cox contributed to a range of public engagement and international knowledge exchange activities connected to brain and cognitive ageing research. On 1 April, Simon delivered his inaugural lecture, *"Fool's Gold, Marginal Gains, and Magic Bullets (in neurocognitive ageing research)"* at Edinburgh Futures Institute. The sold-out event explored common misconceptions about brain ageing, the search for protective factors linked to cognitive health, and the importance of cumulative "marginal gains" across the lifespan rather than single "magic bullet" solutions.

Simon also delivered a Keynote lecture at the DATICAN international conference in Nigeria, describing neuroimaging and cognitive markers of ageing and dementia risk in the Lothian Birth Cohorts and beyond. Simon said: "*It was a pleasure to have been invited by Prof Benjamin Aribisala to deliver this lecture. Benjamin, who is a long-time LBC collaborator, has been awarded NIH funding to establish the excellent Data Science and Medical Image Analysis Training in Nigeria (DATICAN) initiative, and I thoroughly enjoyed the discussions with delegates that followed the talk. It was also, of course, great to catch up with Benjamin, and he and I are working on future opportunities to work together.*"

Alongside these activities, Simon contributed expert commentary to a feature by journalist David Cox for The i Paper titled *"The six memory symptoms you should never ignore"*. The article explores different types of memory problems, when they may indicate underlying neurological conditions, and how memory changes relate to healthy ageing.

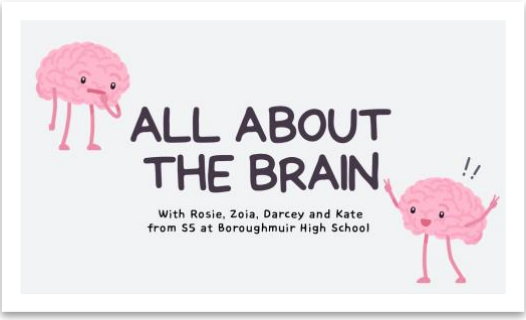
LBC contributes to Edinburgh Medical School's 300th anniversary celebrations

The LBC team has recently taken part in several events celebrating The University of Edinburgh Medical School's 300th anniversary and highlighting the contribution of Scottish longitudinal research to our understanding of health, ageing, and society. Earlier this Spring, the team hosted an LBC engagement stall at an alumni event held at Edinburgh Futures Institute, where visitors explored the history of the Scottish Mental Survey of 1947 and the continuing follow-up of participants through the LBC studies. The event provided an opportunity to share how data collected from Scottish school children at age 11 has contributed to over two decades of internationally recognised ageing research.

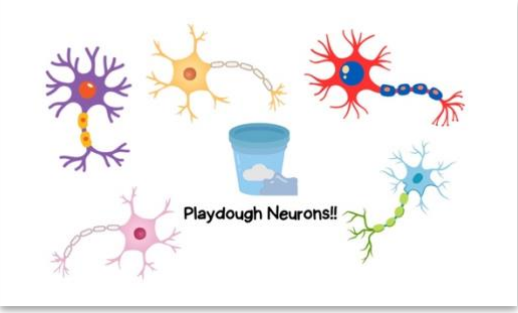
The story of the Scottish Mental Surveys and the scientific legacy of the Lothian Birth Cohorts studies was also shared in May with audiences at Craigmillar Library as part of Local Heritage Month.

The celebrations have also included creative contributions from researchers connected to the LBCs. Charlotte Squires, geriatrician and a PhD student in the Centre of Population Health Sciences who works with the LBC team, was a winner of the poetry competition. Her poem, *Rivers*, reflects on women in medicine and the barriers they have faced throughout history. The winning poems will appear in an anthology distributed to graduating medical students and have also been transformed into *animated works* by students from Edinburgh College of Art. Congratulations, Charlotte!

Healthy brains at St Francis Primary School



In March, students from the Healthy Brains programme at Boroughmuir High School visited St Francis RC Primary School to deliver a series of interactive brain-health activities to over 50 Primary 1 pupils. The session combined science and creativity. The morning began with the P1 pupils' daily routine with "Go Danny!" dance songs with the BHS students joining in. The students then led hands-on activities exploring how the brain works, including a workshop with pupils drawing neurons step-by-step and then building colourful playdough neurons, and connecting them together to create classroom "neural networks". The activities encouraged discussion about healthy brains, learning, sleep, physical activity, and making connections in the brain with everyday experiences. Teachers praised the Boroughmuir students for their enthusiasm, organisation, and ability to engage the younger children, while the P1 pupils clearly had great fun throughout the visit. The event is part of the wider Healthy Brains programme, which brings together research, education, and intergenerational science engagement across Edinburgh schools and communities.



LBC returns to the Castlebrae Community Science Festival

Left to right: Alexandra Lesayova, Rita Dargham, and Barbora Skarabela at Castlebrae Community High School

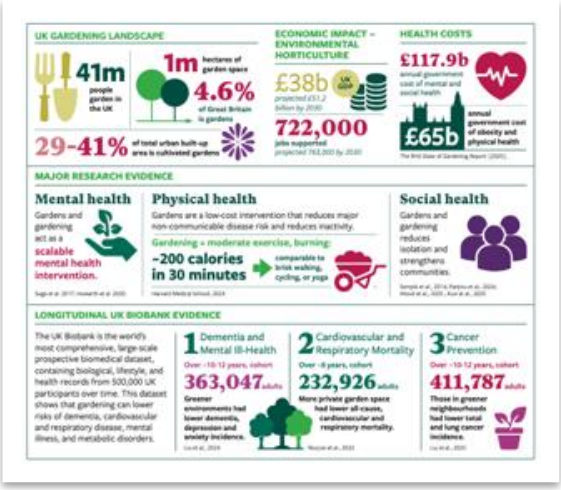
For the third year in a row, the Lothian Birth Cohorts team took part in the Castlebrae Community Science Festival, organised by colleagues at Edinburgh BioQuarter. This year's festival welcomed around 150 community members and families, alongside pupils from Castlebrae Community High School, with more than 50 researchers and staff delivering 15 interactive science activities across the event. Representing the LBC team, Rita, Alexandra and Barbora shared brain and ageing research through a range of hands-on activities, including 3D-printed brains, augmented reality glasses, and a hand grip strength dynamometer used in ageing research, which proved very popular with children and young people eager to demonstrate their strength. Visitors of all ages had the opportunity to explore how researchers study the brain, cognition, and physical health across the lifespan. The event once again highlighted the value of bringing science directly into local communities. Feedback from families was overwhelmingly positive, with many commenting on how much they enjoyed having the opportunity to engage with research close to home. The LBC team had great fun meeting local families, answering questions, and sharing the work of the study with the wider community. We look forward to taking part in the festival again in the future.

Dementia-inspired fashion design to feature in Met Gala exhibition

Nadia Pinkney's collection Remember Me Knot, inspired by Alzheimer's disease displayed in Met

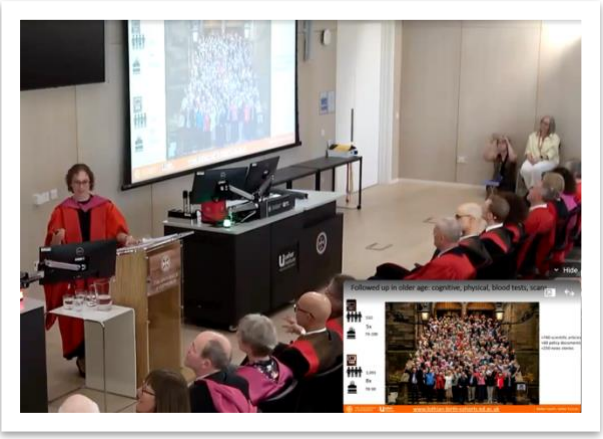
A striking new fashion project exploring the experience of dementia – developed with input from Dr Tom Russ, Director of the Alzheimer Scotland Dementia Research Centre and LBC Co-Investigator – is set to feature in an exhibition connected to the prestigious Met Gala. Scottish designer and art teacher at St David's High School in Dalkeith, Nadia Pinkney created the work in response to the experiences of her grandmother and great-grandmother, both of whom lived with Alzheimer's disease. The design explores memory, identity, loss, and changing perception through layered fabrics, distorted textures, and evolving silhouettes inspired by the progression of dementia. Tom acted as a consultant on the project, helping connect scientific understanding of dementia with artistic interpretation. The collaboration highlights how creative approaches can open up new ways of discussing dementia and communicating lived experiences of cognitive decline to wider audiences. The story received coverage from BBC News and forms part of a growing conversation linking science, public engagement, and the arts in dementia research. Tom said: *"It was a pleasure to contribute to the project – it was fascinating to see scientific ideas about dementia interpreted through such an original and compelling artistic lens."*

LBC gardening research cited in major Royal Horticultural Society wellbeing report



Research from the Lothian Birth Cohorts on gardening and wellbeing in older adults has been cited as key evidence in a major report by the Royal Horticultural Society. The 2026 report, *The Wellbeing Garden Blueprint for Home Gardens*, draws on findings from the LBC1936 study led by LBC Co-Investigator Dr Janie Corley examining associations between home garden use and physical and mental wellbeing during the COVID-19 pandemic. Published in *the Journal of Environmental Psychology*, the original paper explored how engagement with home gardens related to wellbeing in older adults during lockdown. The RHS report uses the LBC findings as evidence supporting the importance of home gardens for mental wellbeing during periods of stress and disruption, particularly in later life. The study contributed to the report's "Feeling" and "Function" design principles, which emphasise the psychological and wellbeing benefits of both active and passive engagement with gardens and green spaces. The inclusion of the study in the report demonstrates how LBC research is contributing to wider public understanding of healthy ageing, wellbeing, and the importance of access to green space beyond academia.

Professor Susan Shenkin delivers inaugural lecture



Professor Susan Shenkin at the Usher Institute delivering her inaugural lecture

Congratulations to Professor Susan Shenkin, Professor of Healthcare for Older People at the University of Edinburgh and Honorary Consultant in NHS Lothian, on her inaugural lecture, *"A series of small things brought together": Building bridges for older people's care,* delivered at the Usher Building, Edinburgh BioQuarter, on 27 May 2026. In her lecture, Professor Shenkin reflected on her career and explored how stronger collaboration across health and social care can improve outcomes for older people. Highlighting the importance of relationship-building and partnership working, she discussed the need to bridge organisational and disciplinary boundaries in order to deliver better, more integrated care. Susie is an LBC Co-Investigator and a Medical Advisor to the Lothian Birth Cohort Studies, where her expertise in ageing, dementia, and healthcare for older people contributes to the wider research programme investigating cognitive and brain ageing across the life course. We congratulate Susie on this important milestone and look forward to her continued contributions to research, clinical practice, and the Lothian Birth Cohort Studies!

LBC research recognised as Editor's Choice

Congratulations to Dr Joanna Moodie and colleagues whose recent paper, *"Cognitive dedifferentiation in later life: Longitudinal findings from the Lothian Birth Cohort 1936"*, has been selected as a 2026 Editor's Choice in the Psychological Sciences section of the Journals of Gerontology: Series B. Each quarter, the journal's Editor-in-Chief selects three papers to highlight exemplary research in psychological science and ageing, recognising work that demonstrates methodological innovation, substantial findings, or the potential to inspire new direction in research. Using LBC1936 longitudinal data, the study suggests that cognitive abilities may become increasingly interrelated with age – a phenomenon known as cognitive dedifferentiation, offering new insights into patterns of cognitive ageing.

Research on lacunar stroke gains widespread media attention

Research led by LBC Co-Investigator Professor Joanna Wardlaw has received widespread media coverage following the publication of a major new study on lacunar stroke in *Circulation*. The study challenges a long-held assumption about the causes of lacunar stroke – a common type of stroke linked to cognitive decline and dementia. Rather than being caused primarily by fatty blockages in larger arteries, the research found strong evidence that widening and damage of the brain's small blood vessels play a key role in the disease. The findings may help explain why standard treatments such as aspirin are often less effective for lacunar stroke and are helping inform new treatment approaches targeting the brain's small vessels directly. The publication attracted substantial public and media interest and was covered by BBC Reporting Scotland, BBC Radio Scotland, The Guardian, ITV News, The Independent, Daily Mail, and several other national media outlets.

Recent Publications

Andres, S. et al. (in press). Trajectories of pain and cognitive function: 22 years of evidence in mid-to-later life. *Pain*.

Corley, J., et al. (2026). Gardening, healthy aging, and longevity: Longitudinal evidence from 25 years of the Lothian Birth Cohort 1921. *Journal of Environmental Psychology*. https://doi.org/10.1016/j.jenvp.2025.102889

Deary, I. J., et al. (2026). Those evenings of the brain – when not a moon disclose a sign. *Intelligence & Cognitive Abilities*. https://doi.org/10.65550/001c.154856

Hatton, A. A., et al. (2026). Blood-based DNA methylation captures variance in adult height. *Genome Biology*. https://doi.org/10.1186/s13059-025-03918-7

Koprulu, M. et al. (2026). Multi-cohort proteogenomic analyses reveal genetic effects across the proteome and diseasome. *Cell*. https://doi.org/10.1016/j.cell.2026.03.049

Lee, S., et al. (2026). Large-scale blood pressure GWAS accounting for gene-depression interactions in 564,680 individuals from diverse populations. *Human Genetics and Genomics Advances*. https://doi.org/10.1016/j.xhgg.2026.100566

Liu, D., et al. (2026). DNA methylation signatures of bilateral hippocampal volume, asymmetry and atrophy: A cross-omics analysis in the general population. *eBioMedicine*. https://doi.org/10.1016/j.ebiom.2026.106289

Noordam, R., et al. (2026). Genome-wide gene-sleep interaction study identifies novel lipid loci in 732,564 participants. *Atherosclerosis*. https://doi.org/10.1016/j.atherosclerosis.2025.120603

Mckinnon, K., et al. (2026). Preterm birth, socioeconomic status, and white matter development across childhood. *Developmental Cognitive Neuroscience*. https://doi.org/10.1016/j.dcn.2025.101643

Shen, C. et al. (2026). The non-linear and linear effects of CYP2C19 metaboliser status on DNA methylation: a methylome-wide association study. *Clinical Epigenetics*. https://doi.org/10.1186/s13148-026-02125-w

Smikle, R., et al. (2026). Parental report of language, attention and executive functions at two years: correlational structure of measures and applications to prematurity. *Wellcome Open Research*.

Smikle, R., et al. (accepted). Protein epigenetics scores derived in neonatal saliva as biomarkers of childhood cognition. *Molecular Psychiatry*.

Squires, C., et al. (2026). Extracting geriatric syndromes from electronic health records: A scoping review. *European Geriatric Medicine*. https://doi.org/10.1007/s41999-025-01388-5

Yang, Z., et al. (2026). Agreement between self-report and device-measured sedentary behavior varies with cognitive function. *Psychology and Aging*. https://doi.org/10.1037/pag0000977

Contact

You can contact the LBC team by email and keep up with our latest news on our website:

https://lothian-birth-cohorts.ed.ac.uk/

Click here to browse through previous issues of the Disconnected Mind Newsletter.

Email lbc1936@ed.ac.uk to reach the LBC1936 cognitive testing team, or lbc.ke@ed.ac.uk for knowledge exchange, public engagement, media inquiries, and policy.

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